

What is claimed is:

1 1. A structure having at least one outer wall, said outer wall further comprising:
2 - an internal wall section;
3 - an external wall section displaced a predetermined distance from and
4 juxtaposed with said internal wall section;
5 - an air flow passage between said internal wall section and said external
6 wall section; and
7 - an air circulation system providing an air flow through the air flow
8 passage to inhibit moisture on the internal wall section.

1 2. The structure of claim 1 wherein the air provided is conditioned air to control
2 relative humidity of said air in said air flow passage.

1 3. The structure of claim 1 further comprising an attic that is in air communication
2 with the air flow passage.

1 4. The structure of claim 1 further comprising a roof that is coupled to the external
2 wall section to form an air seal therebetween.

1 5. The structure of claim 3 wherein the air circulation system creates a positive air
2 pressure in the structure to cause at least some of said air to flow through the air flow
3 passage.

1 6. The structure of claim 3 wherein the air circulation system is placed at one of (i)
2 inside the structure; (ii) outside the structure system with an air conduit supplying air
3 from the air circulation system to the air flow passage; and (iii) at least in part inside the
4 structure.

1 7. The structure of claim 1 wherein the at least one outer wall includes a plurality of
2 such outer walls and a roof to form an enclosed structure.

1 8. The structure of claim 1 wherein the external wall section includes an insulating
2 layer.

1 9. The structure of claim 8 wherein the external wall section further comprises:
2 - a weather-resistant layer outside of the insulating layer; and
3 - a sheath inside of the insulating layer.

1 10. The structure of claim 1 wherein the internal wall section includes a liquid barrier.

1 11. The structure of claim 10 wherein the internal wall section further comprises a
2 wall framing system to provide structural support to the internal wall section.

1 12. The structure of claim 11 wherein the internal wall section further comprises a
2 first sheathing between the liquid barrier and the wall framing system.

1 13. The structure of claim 12 wherein the internal wall section further includes a
2 second sheathing inside of the wall framing system.

1 14. The structure of claim 1 further comprising at least one sensor providing a signal
2 indicative of presence of moisture.

1 15. The structure of claim 14 wherein the at least one sensor is placed at one of (i) in
2 the air flow passage; (ii) in an attic of the structure; (iii) adjacent to the air circulation
3 system.

1 16. The structure system of claim 14 further comprising a controller for controlling
2 the air circulation system in response to the signal from the at least one sensor.

1 17. An enclosed structure comprising:
2 at least one outer wall that includes
3 - an internal wall section;
4 - an external wall section displaced a predetermined distance from and
5 juxtaposed with said internal wall section;
6 - an air flow passage between said internal wall section and said external
7 wall section;
8 - an air circulation system for causing air to flow through the flow passage
9 to inhibit moisture on the inner wall section;

10 - at least one sensor for generating a signal indicative of moisture; and
11 - a controller for controlling said circulation system in response to said
12 signal from said at least one sensor to inhibit moisture on the internal wall
13 section.

1 18. The enclosed structure of claim 17, wherein the at least one sensor comprises at
2 least one relative humidity sensor located proximate to the air flow passage for indicating
3 the relative humidity of the air flow in said air flow passage.

1 19. The enclosed structure of claim 17, wherein the controller includes at least one
2 circuit to interface with said at least one sensor, and a processor, acting according to
3 programmed instructions, to control the circulation system to provide a predetermined
4 relative humidity of the air flow in said air flow passage.

1 20. A method for inhibiting moisture accumulation in an outer wall of a structure,
2 comprising:

3 - providing an outer wall having an internal wall section and an external
4 wall section with an air flow passage therebetween; and
5 - supplying air into the air flow passage by an air circulation system to
6 inhibit moisture accumulation on the internal wall section.

1 21. The method of claim 20 wherein supplying air comprises supplying conditioned
2 air.

1 22. The method of claim 20 wherein supplying air comprises supplying air with an air
2 circulation system associated with the structure.

1 23. The method of claim 20 further comprising determining relative humidity of the
2 air inside the structure.

1 24. The method of claim 23 further comprising controlling supply of the air in
2 response to the determined relative humidity.

1 25. The method of claim 23 further comprising controlling the air circulation system
2 in accord to programmed instruction provided to a controller associated with the air
3 circulation system.